

Interactive comment on “Size-resolved and bulk activation properties of aerosols in the North China plain: the importance of aerosol size distribution in the prediction of CCN number concentration” by Z. Z. Deng et al.

Anonymous Referee #2

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This paper discusses the interaction between aerosol particles and cloud formation. This is a very important scientific issue for climate change study. This paper shows the field measurement in a highly polluted region (eastern China). Due to the extremely high aerosols and lack of measurements in this region, the result of the experiment provides important information for better understanding the interaction between aerosols and cloud formation. In addition, this study shows more detailed information of aerosol particles than some previous measurements in this region. This study provide not only bulk aerosol information (such as PM_{2.5} and PM₁₀), which is normally measured by several previous studies, it also measures aerosol size distribution and aerosol composition. These detailed aerosol information are crucial for better understanding the interaction between aerosols and CCN activation. The analysis of the paper is reasonable. Based on the above consideration, this paper has scientific merits to be considered as publication by ACP. However, this paper has a main problem, which is to clearly express their result and scientific findings. The main reason for the problem is that the English of the paper is relatively poor, and need to be considerably improved. I suggest that the authors should carefully read the paper entirely, and rewrite the paper in a more clear way. When the authors write an important scientific point, they should consider that not only you understand the context, but readers can clearly understand the statement. In balance of the good scientific value and the poor expression of the paper, I suggest the author to carefully rewrite the paper, and the paper can be published after the paper will be well written.

We appreciate the referee’s comments. The manuscript has been revised carefully according to the suggestions.